

# CHALLENGES FOR ENERGY STORAGE DEVELOPMENT IN THE UNITED STATES

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What is the energy storage Grand Challenge (ESGC)? The Department of Energy's (DOE) Energy Storage Grand Challenge (ESGC) is a comprehensive program to accelerate the development, commercialization, and utilization of next-generation energy storage technologies and sustain American global leadership in energy storage.



What is the energy storage Grand Challenge roadmap? In December 2020, the U.S. Department of Energy (DOE) released the Energy Storage Grand Challenge Roadmap, the Department's first comprehensive energy storage strategy. DOE previously released a draft version of this Roadmap in July 2020 along with a Request for Information (RFI).



Why is energy storage important? Increased renewable energy generation and a decrease in battery storage costs have led to a stronger global focus on energy storage solutions and grid flexibility services. Energy storage offers an opportunity to identify the most cost-effective technologies for increasing grid reliability, resilience, and demand management.



Why is Energy Storage Resource Development important? Energy storage resource development will continue to grow across the United States as an important tool to enhance grid reliability and stability as intermittent renewable generating resources account for a larger share of generation resources.



What are the energy storage Grand Challenge goals? The Decadal Challenge goals are to leverage the ESGC Lab Coordination team to identify key issues across energy storage that DOE can address over the next decade to achieve roadmap/storage shot goals. Learn more about Energy Storage Grand Challenge upcoming events, including the 2024 Energy Storage Grand Challenge Summit.

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How much will energy storage cost in 2030? With six use cases that identify energy storage applications, benefits, and functional requirements for 2030 and beyond, the ESGC has identified cost and performance targets, which include: \$0.05/kWh levelized cost of storage for long-duration stationary applications, a 90% reduction from 2020 baseline costs by 2030.



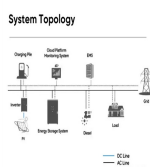
WASHINGTON D.C. ??? The Solar Energy Industries Association (SEIA) is unveiling a vision for the future of energy storage in the United States, setting an ambitious target to deploy 10 million distributed storage installations ???



Energy storage is integral to achieving electric system resilience and reducing net greenhouse gases by 45% before 2030 compared to 2010 levels, as called for in the Paris Agreement. China and the United States led ???



Energy Information Administration - EIA - Official Energy Statistics from the U.S. Government to come on line in 2024. With the rise of solar and wind capacity in the United States, the demand for battery storage continues ???



Energy storage resources have become an increasingly important component of the energy mix as traditional fossil fuel baseload energy resources transition to renewable energy sources. Currently 23 states, plus the District of ???

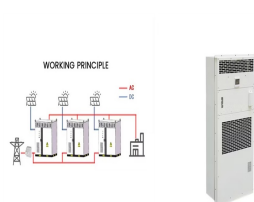
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This exciting transformation of the nation's electric grid creates both challenges and opportunities to advance the capabilities of today's electricity delivery system. A critical component of grid modernization is a coordinated, ???



As coal plants and other large generators become uneconomical and retire, balancing services from energy storage will become more important to maintain reliability of the electric grid. As of February 2025, utilities had active ???



With a simplified policy process and considering preliminary project reserves, TrendForce anticipates U.S. energy storage installations to reach 13.7GW/43.4GWh in 2024, reflecting a year-on-year growth of 23% and ???



Energy leaders recently gathered at Stanford to discuss ways to quickly expand the U.S. electricity supply and infrastructure to meet growing demand. A new report summarizes their key ideas for



Energy storage resources present a distinct set of challenges given their unique nature: unlike conventional or renewable generation, energy storage resources must be charged with electric ???